Drum Discovery, Handling, and Disposal

Clean Harbor's - Wichita, KS

March 23, 2015

Previously unidentified and unknown buried drums were encountered during excavations at the Clean Harbor's Facility in Wichita, KS.

Process Area Drum Excavation

A couple of partial drums, along with trash and rubble had been initially discovered during the excavation beneath the Former Process Area in December, 2014. These drums were discovered following signs of trash on a sidewall and exploratory excavations of the trash lead to a couple of partial drums that looked like trash drums.

Looking South, the photo above shows one drum and rubble in place prior to removal on December 30, 2014. The drum was located near the western extent of the Process Area excavation.

Looking South, the photo above shows the drum and rubble being removed. Upon excavation, a total of 3 drums were present. Of the 3 drums, 2 drums were crushed while one drum retained its general shape and size.

Looking Southwest, the photo above shows the drums and rubble being excavated from the western wall of the Process Area excavation on December 30, 2015. Rubble (concrete, block, wood, etc.) was encountered behind the drums. Limited excavation of the area was completed on December 30, 2015 as to not interrupt truck traffic in the area.

Additional soil was excavated from the location of the drums in the Process Area on January 27, 2015. Photo was taken looking Northeast at the excavation area.

Additional soil was excavated from the location of the drums in the Process Area on January 27, 2015. Photo was taken looking Southeast at the excavation area.

Paint Pit Drum Excavation

Excavation of the Paint Pit area began around December 16, 2014, with excavation of overburden and the initial loading of impacted soils into roll-offs. On site roll-offs were filled and contamination was still evident for some distance beyond the expected area. Several rounds of additional roll-offs were delivered, loaded, and shipped during December, January, and early February. While chasing the stained and impacted soils to the west of the planned Paint Pit Excavation – trash, debris, and partial drums were initially encountered.

During excavation of the Paint Pit the stained soil area was extending to the North and West of the expected Paint Pit area. In this January 26, 2015 photo (looking Northwest) the stained soils are visible near the center of the photo above the shadow. Less visible is the trash & debris that is becoming more visible on the west wall of the excavation – in the upper left of the photo.

Some Additional excavation was performed on February 2, 2015 where the Western sidewall was excavated further, both removing stained soils and trash/debris and a few drum pieces (highly corroded remnants). Photo taken looking South at the Western sidewall of the paint pit excavation.

Looking West at roll-off being loaded immediately west of the paint pit excavation area.

By February 3, 2015 a black stained area and more trash/debris & Drum pieces were evident to the West side of the excavation. Photo taken looking Northwest into paint pit excavation.

Waste Materials were becoming evident, such as this large piece of suspected Fiberglass material.

Looking Southwest, the photo below shows the Western sidewall of the paint pit excavation and the dark stained area as seen on February 5, 2015.

Looking Southeast at the paint pit excavation on February 10, 2015 additional drums were encountered.

A "pothole" excavation on February 12th was completed to the West of the existing Paint Pit excavation in an effort to determine the extent of impacted soils. This excavation encountered multiple drums and drums that were more intact in the ground. Looking Northeast into the excavation, this photo shows a side of a drum beneath white paper trash (shadow falls across the drum).

Looking South, additional trash, debris and drums were encountered on February 16, 2015 as material was moved around within the excavation as the extent of drums and trash was searched for, but could not be determined. Photo below is of miscellaneous trash and debris, as moved within the Paint Pit Excavation Western "pothole".

The picture below, looking Southwest, shows a very rare (only one noted) empty drum that still had an inner void space. Generally all other drums were pieces or filled with solids, the majority with what is believed to possibly be fiberglass and/or set epoxy (resin w/ hardner) type material.

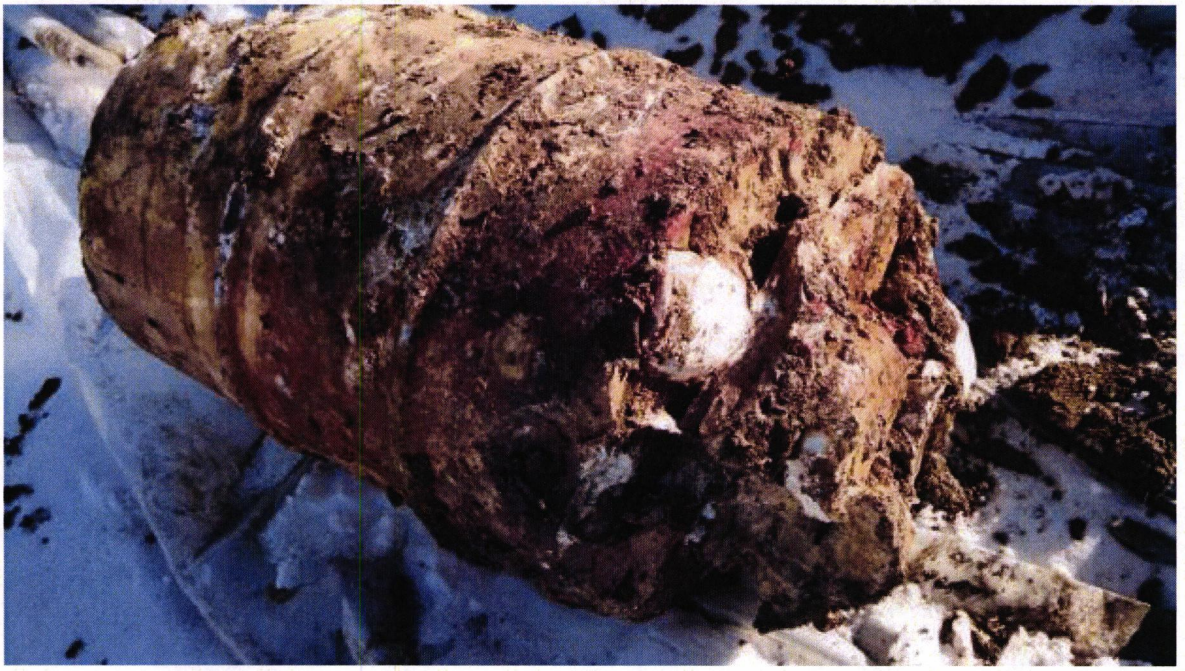
The majority of drums were excavated on February 26, 2015. The following photo, looking West, shows the excavation being extended North and West of the former Paint Pit excavation as drums, trash, and miscellaneous debris continued to be encountered.

The photo below, looking South, also from February 26, 2015, shows one of the more interesting drums recovered, possibly a drum of green paint that has mostly dried out, the material was hard yet slightly rubbery.

The photo below, looking West, from Februrary 26, 2015, shows the paint pit excavation as it is nearly complete with all drums and waste materials removed, prior to final confirmation sampling.

The two photos below show two separate groups of drums separated from the stockpile of soil. Looking North, the first group is placed on plastic sheeting. The second photo is looking Northwest at the second set (pile) which had yet to be separated and placed on plastic.

Looking Northeast at one of the apparent drums which was actually only drum contents. The drum exterior had rusted away and/or was removed during excavation. The contents were apparently set epoxy resin / fiberglass type material cast into the classic drum shape. Some of these materials were translucent pink/yellow, while some were solid white.



Sampling of the drum contents was accomplished, on March 11, 2015, during a site visit by Chris Jump USEPA. Contents of several of the drums were removed and placed in sample containers. Set epoxy drums required hammer and chisel to break the material down to place in sample containers.

Warmer temperatures were also observed during the March 11, 2015 sampling event. The increase in the ambient temperatures thawed some of the drummed materials, which were previously thought to have been hard and solid. The photo below is looking East at a white rubbery mass that seemed like a silicone type caulking, which is being separated into sample containers.

Following sampling the drums and drum contents were placed into a covered roll-off container.

Analytical results have been obtained and disposal of the sampled materials are being planned at the Clean Harbor's incineration facility in Kimball, NE.

Clean Harobrs Wichita
Analytical Results for Detected Compounds
Buried Drum Sampling

Analyte	BLACK STICKY MATERIAL	COMPOSITE PINK-CLEAR MATERIAL	COMPOSITE RED MATERIAL	DRUM # 1 WHITE MATERIAL	GREEN MATERIAL	WHITE SOFT MATERIAL	TRIP BLANK
Metals (mg/kg)							
Arsenic	2.2	<0.50	0.51	0.75	95.2	0.57	NA
Barium	46.8	<2.5	177	<2.5	1020	9.5	NA
Cadmium	0.35	<0.050	<0.050	<0.050	<0.050	0.27	NA
Chromium	13.7	<0.10	12.6	2.5	0.44	3.4	NA
Lead	47.8	<0.50	17.8	3.3	111000	23.5	NA
Mercury	<0.041	<0.041	<0.041	<0.041	<0.041	<0.041	NA
Organics (ug/kg)							
Ethylbenzene	<31100	<256	102000	1460	294000	138000	<5.0
Isopropylbenzene (Cumene)	125000	3600	8130	5090	751000	<30900	<5.0
Toluene	<31100	<256	<269	<256	<35200	<30900	<5.0
Xylene (Total)	14300000	4630	39200	27400	41800000	347000	<5.0
m&p-Xylene	666000	4630	24300	27400	26500000	282000	<5.0
o-Xylene	13600000	<256	14900	<256	15300000	65700	<5.0
2-Butanone (MEK)	<10000	221000	899	2190	<10000	193000	<10.0
Acetone	<124000	5660	<1080	142000	<141000	3860000	<20.0
Styrene	<31100	203000	2180	109000	<35200	43400	<5.0
n-Propylbenzene	<31100	2880	24300	3180	830000	<30900	<5.0
1,2,4-Trimethylbenzene	<31100	<256	102000	1460	294000	138000	<5.0
1,3,5-Trimethylbenzene	<31100	<256	37400	708	210000	40200	<5.0
1,4-Dichlorobenzene	<31100	<256	684	<256	<35200	<30900	<5.0
Chlorobenzene	<31100	<256	<269	<256	<35200	<30900	<5.0
Naphthalene	<62100	<513	34900	<511	84400	<61800	<10.0
n-Butylbenzene	<31100	<256	49200	434	45900	<30900	<5.0
p-Isopropyltoluene	<31100	<256	28700	<256	86000	<30900	<5.0
sec-Butylbenzene	<31100	<256	27800	263	<35200	<30900	<5.0
Chloroethane	<31100	<256	<269	<256	<35200	<30900	<5.0
Chloromethane	<31100	<256	<269	<256	<35200	<30900	<5.0
3&4-Methylphenol(m&p Cresol)	<10000	<200	<200	<200	<200	10700	NA

Notes:
NA - Not Analyzed
All samples collected on March 11, 2015
mg/kg - milligrams per kilogram
ug/kg - micrograms per kilogram